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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/779,459	02/13/2004	Daniel James Branagan	NANO005U	8975
32047	7590	02/21/2006	EXAMINER	
GROSSMAN, TUCKER, PERREAULT & PFLEGER, PLLC 55 SOUTH COMMERICAL STREET MANCHESTER, NH 03101			WYSZOMIERSKI, GEORGE P	
			ART UNIT	PAPER NUMBER

1742

DATE MAILED: 02/21/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

6

Office Action Summary	Application No.	Applicant(s)	
	10/779,459	BRANAGAN, DANIEL JAMES	
	Examiner	Art Unit	
	George P. Wyszomierski	1742	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 November 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>11/15/05</u> . | 6) <input type="checkbox"/> Other: _____ |

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1. The following is a quotation of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-6 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The claims as amended November 15, 2005 recite a reduced crystallization temperature increased by "at least 8 percent". Nothing in the disclosure as originally filed would have conveyed the concept of "at least 8 percent" to one of skill in the art reading the disclosure.

Applicant suggests that the disclosure in the specification of two examples, one having an increase of 8.9% and the other an increase of 22% provides support for the newly claimed subject matter. The examiner respectfully disagrees. While these examples provide support for those individual data points, and perhaps for points in between, they do not provide support for the generic concept of an increase of "at least 8 percent".

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3. Claim 6 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The term "reduced crystallization temperature" in this claim is undefined. The examiner suggests adding language to this claim similar to that of claim 1, lines 4-6.

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP357051237A.

The JP '237 reference discloses raising the crystallization temperature of an amorphous (i.e. glassy) iron-base alloy by adding a few atomic percent of a lanthanide such as samarium to the composition. With respect to instant claim 2, the addition of a small amount of an element to such a composition is unlikely to change the melting temperature significantly, and whatever change may occur in the prior art is held to meet the claimed requirement that the temperature be "substantially the same" with and without the rare earth element. With respect to the temperature limitation of instant claim 6, Figure 1 of JP '237 clearly shows a material with a crystallization temperature below 675 deg.C without the lanthanide and above this level with the lanthanide present.

The prior art does not specify that the reduced crystallization temperature (as defined in the present application) is raised by at least 8%, and does not disclose any specific examples that employ an alloy having a composition as recited in claim 6. These differences are not seen as resulting in a patentable distinction between the prior art and the claimed invention because:

a) The change in crystallization temperature from about 500 to about 700 deg.C shown in Figure 1 of JP '237 would almost certainly result in a change in the reduced crystallization temperature to within a value as defined in the instant claims.

b) With regard to the claim 6 composition, the JP '237 disclosure indicates that the prior art process is applicable to alloys containing as much as 75 atomic% iron, i.e. within the presently claimed range.

Consequently, a prima facie case of obviousness is established between the disclosure of JP '237 and the presently claimed invention.

6. Claims 1-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kudo et al. (U.S. patent 6,668,310).

Kudo discloses adding a few atomic percent of a lanthanide such as gadolinium, samarium, terbium, dysprosium, or neodymium to an iron-base amorphous (i.e. glassy) alloy. Note especially Table 2(b), example 3 and Figure 6 of Kudo. Kudo column 3, lines 62-65 indicates that alloys containing the lanthanide elements "are very high in the crystallization temperature", implying that the addition of lanthanide raises the crystallization temperature in accord with the instant claims.

Kudo does not specify that the reduced crystallization temperature (as defined in the present application) is raised by at least 8% as presently claimed. Nonetheless, it would have been an obvious expedient to one of ordinary skill in the art to add lanthanide element(s) in

various amounts to the prior art alloys to achieve the known effect of raising crystallization temperature. This rise in the crystallization temperature would result in an increase in "reduced crystallization temperature" as herein defined.

Consequently, a prima facie case of obviousness is established between the disclosure of Kudo et al. and the presently claimed invention.

7. In a response filed November 15, 2005, Applicant points out that neither the JP '237 nor the Kudo references specify increasing the "reduced crystallization temperature" in the claims as amended by at least 8%. Thus, the claims are no longer rejected under 35 USC 102, but rather under 35 USC 103. The examiner believes that the rejections under 35 USC 103 should be maintained, for reasons as set forth in items 5 and 6 supra.

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

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9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to George Wyszomierski whose telephone number is (571) 272-1252. The examiner can normally be reached on Monday thru Friday from 8:00 a.m. to 4:30 p.m. Eastern time.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King, can be reached on (571) 272-1244. All patent application related correspondence transmitted by facsimile must be directed to the new central facsimile number, (571)-273-8300. This new Central FAX Number is the result of relocating the Central FAX server to the Office's Alexandria, Virginia campus.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


GEORGE WYSZOMIERSKI
PRIMARY EXAMINER
GROUP 1700

GPW
February 16, 2006